Agile Mind Website: Topic 1 - Exploring - Infinite pg1

SAS4 #1

Agile Mind Website: Topic 1 - Exploring - Infinite pg2

Make a table and fill out the total mg in your body for the first 6 days. DON'T ROUND!

| Day | # mg in body |
|---|---|
| mon | 20 |
| Tues | $20 + .60(20) = 32$ |
| WED | $20 + .60(32) = 39.2$ |
| THUR | $20 + .60(39.2) = 43.52$ |
| FRI | $20 + .60(43.52) = 46.112$ |
| SAT | $20 + .60(46.112) = 47.6672$ |

SAS4 #1

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Add a third column - show the total as the sums of that day and the previous days. DON'T ROUND!

| Day | # mg in body | Total as sums |
|---|---|---|
| mon | 20 | |
| Tues | 32 | $20 + 12$ |
| WED | 39.2 | $20 + 12 + 7.2$ |
| THUR | 43.52 | $20 + 12 + 7.2 + 4.32$ |
| FRI | 46.112 | $20 + 12 + 7.2 + 4.32 + 2.592$ |
| SAT | 47.6672 | $20 + 12 + 7.2 + 4.32 + 2.592 + 1.5552$ |

SAS4 #2

Find the total amount of mg on the 7th day.

DON'T ROUND!

Day 6 (SAT) = 47.6672

Day 7 (SUN) = $20 + (.60)(47.6672)$

= 48.60032 mg

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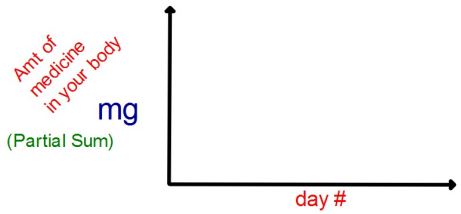
- Infinite Series
- Partial Sums

$S_7$ = 48.60032 mg

Use the graph given to you to make a scatter plot of this data.

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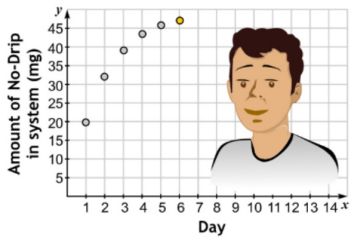
Play all 4 panels

SAS#4 - page 2 question 3




What is the graph doing as the number of days increases?

increasing but starting to slow down

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What must be true about successive terms for the graph of partial sums to start approaching a limiting value?

Successive terms must start to become smaller and smaller, thus affecting the total less and less.

What type of Series will do this?

Geometric with common ratio "less than 1".

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Agile Mind Website:  Topic 1 - Exploring - Infinite pg9

- Convergent Series
- Divergent Series